

TAKING
COOPERATION
FORWARD



FH Vorarlberg

Dornbirn - 05.10.2021



Experience Exchange Workshop III Dornbirn Pilot



Bojana Suzic

PILOT DORNBIRN

ADVANCED MANUFACTURING AND GREEN INNOVATION

Main Objectives:

- Analyze open business models and services in advanced manufacturing & green innovation
- Set up circular economy advanced manufacturing framework
- Knowledge base and guidelines for implementing CE strategy in AM



“the use of innovative technologies to create existing products and the creation of new products, including production activities that depend on information, automation, computation, software, sensing, and networking”

Circular Economy Hub Vorarlberg

Thematic Scope:

Additive Manufacturing

Advanced Materials

Robotics/Automation/Artificial Intelligence

Nanotechnology

Network/IT integration

Digital Innovation



A1 - CE, Open Business Models, Advanced Manufacturing: State-of-the-Art; 07/20

A2 - Best Practice Analysis and Feasibility Study; 11/20

A3 - Circular Economy Advanced Manufacturing Framework; 07/21

A4 - Circular Economy Open Business Model for Advanced Manufacturing: Test Scenarios; 11/21



A5 - Circular Economy Open Business Model for Advanced Manufacturing: Evaluation; 12/21

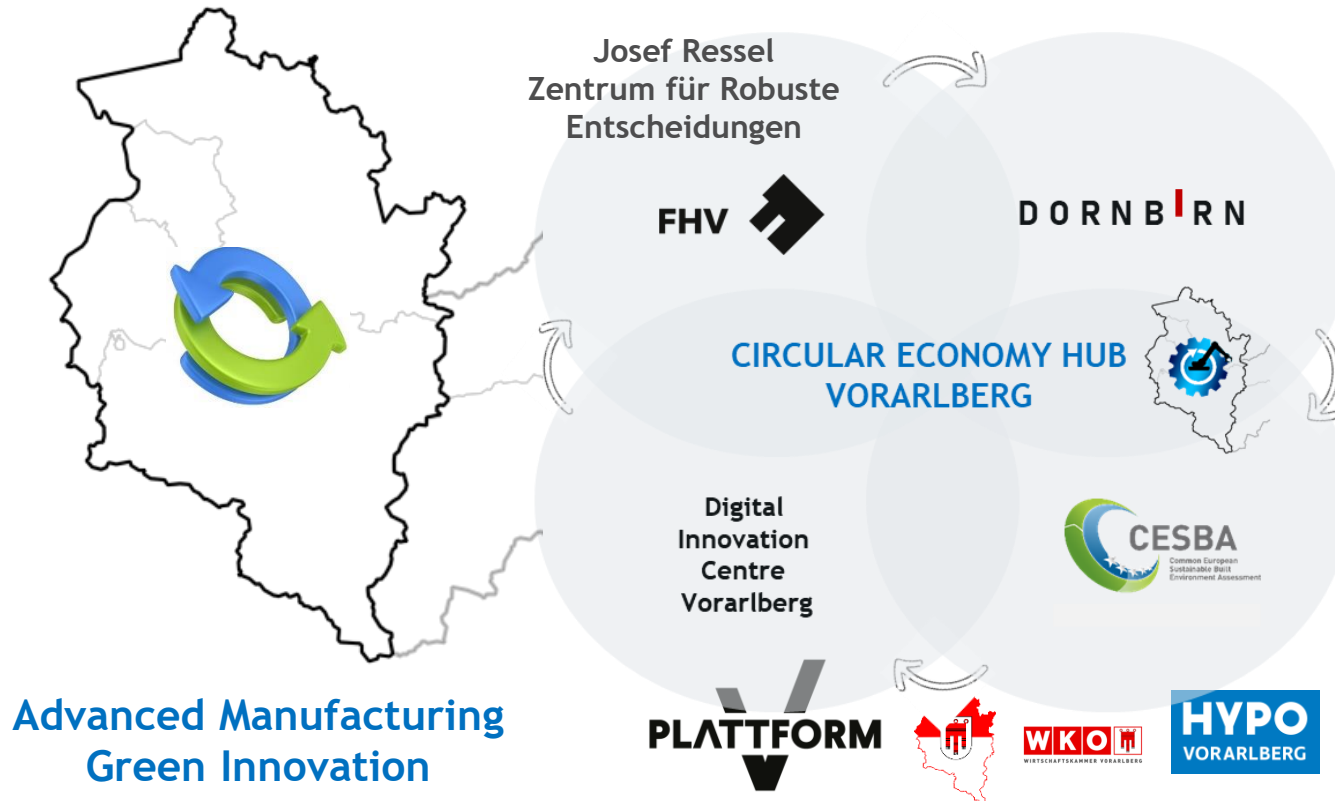
A6 - Circular Economy Open Business Model for Advanced Manufacturing: Recommendations & Guidelines; 01/22

A7 - Communication and Dissemination; 03/22

A8 - Monitoring and evaluation; 03/22

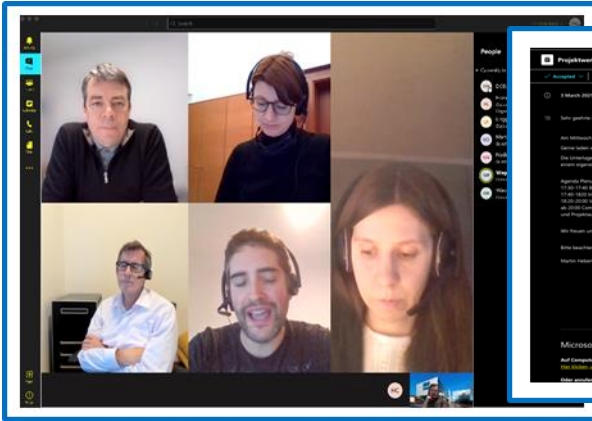


CIRUCLAR ECONOMY HUB VORARLBERG

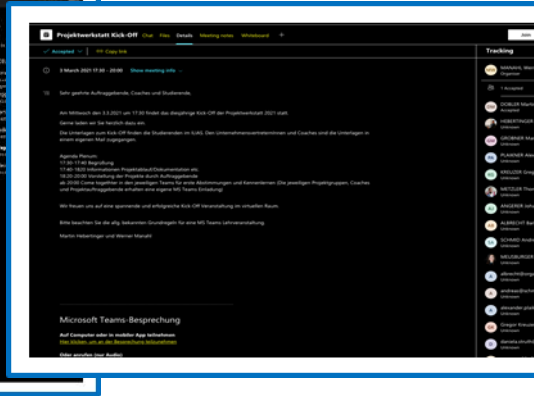


PILOT ACTIVITIES

Vorarlberg Cities - 09.12.2020



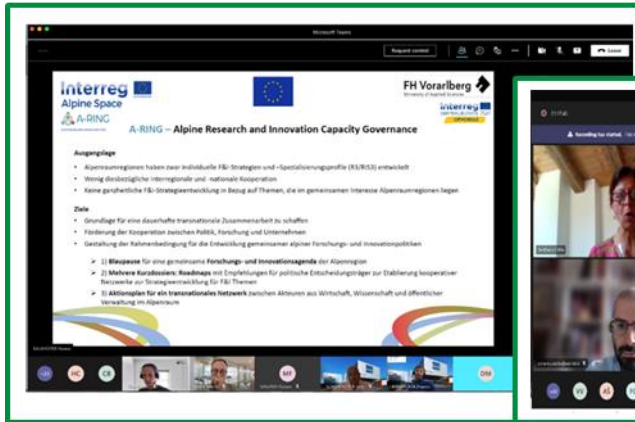
Projektwerkstatt - 03.03.2021



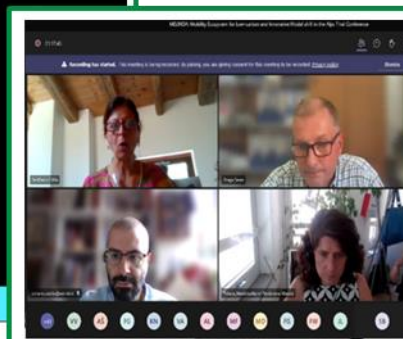
CE Profactor - 14.01.2021



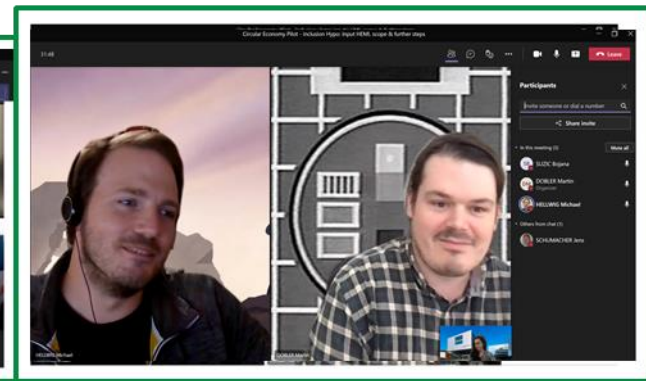
A-Ring - 17.06.2021



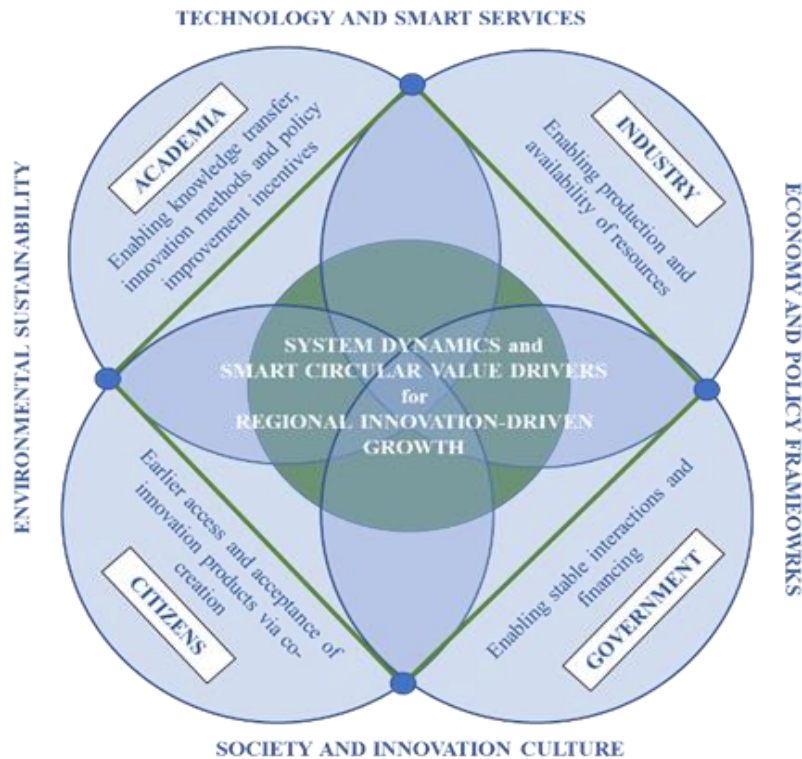
Melinda - 06.07.2021



Josef Ressel Zentrum for Robust Decisions:
Hypo Vorarlberg - 19.05.2021



QUADRUPLE HELIX MODEL FOR CIRCULAR ECONOMY TRANSITION



Quadruple Helix Model

- Workshops, Participatory events, Student projects:

Collaborative business model for circular economy-based advanced manufacturing

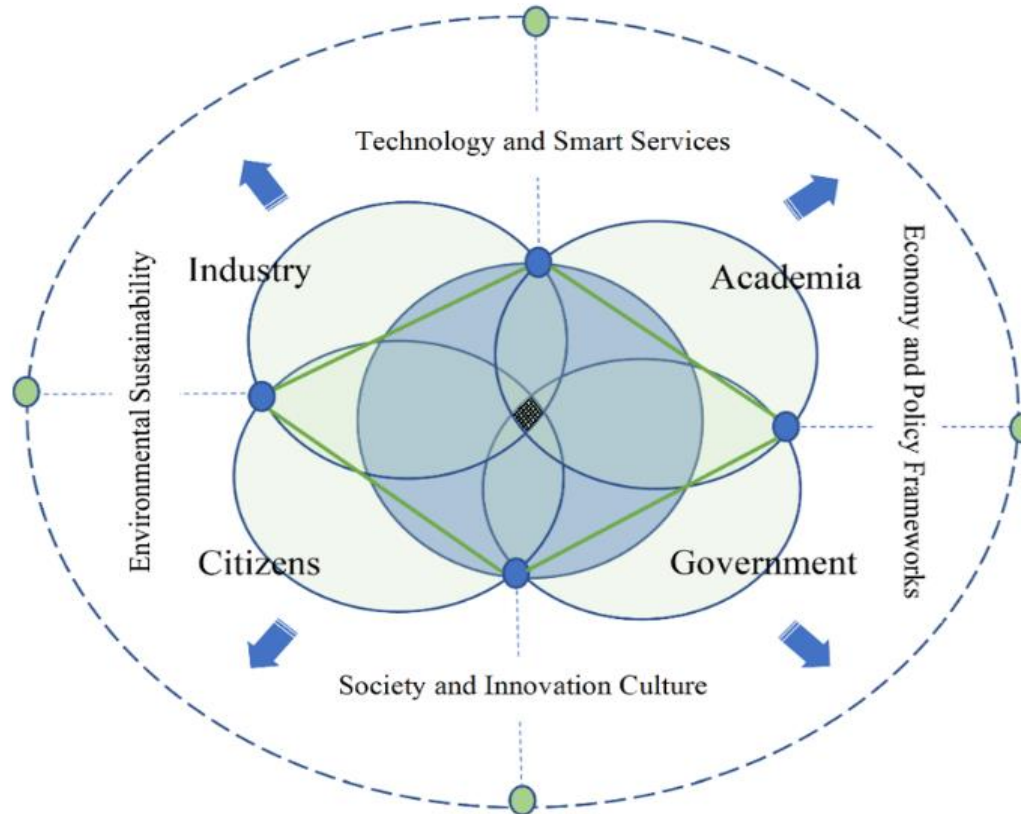
Fields: Wood and textile industry, Food industry, Mobility & Electric vehicles SMEs, Urban innovation, Smart Factories, Digital Innovation

Scope: Lean production technologies, Supply chain integration, Advanced planning and scheduling



SYSTEM DYNAMICS FOR CIRCULAR ECONOMY DRIVEN REGIONAL GROWTH

Advanced Manufacturing



Financing Circular Business Models



BARRIERS IN CIRCULAR TRANSITION

- Know-how and incentives for repair and reuse
- Technology gaps and digitization infrastructure
- Lack of enablers of cross-cycle and cross-sector performance
- Skills and investment of circular design

Industry

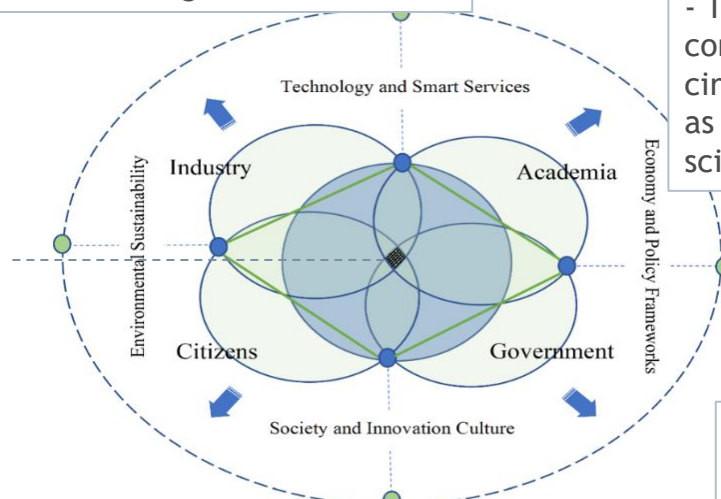
Resource efficiency
Recycling
Waste management
Consumer awareness
Design for circularity

Citizens

- Low levels of innovation exposure
- Knowledge absorption
- Circular economy more aligned with perspectives of regulators than with social perceptions of circular economy
- Regional issues (instead of local) in focus of circular initiatives

- Availability of the data - government
- Closed business models and reluctance of industrial players to share data
- Time, space, and funding constraints in implementing circular projects, as well as open science and citizen science projects

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Government

- Circular economy infrastructure
- Synergies in updating circular policies
- Market coupling
- Citizen awareness and incentivizing wasteful behaviour



- Cross-sectoral collaboration
- Lack of enablers of cross-cycle and cross-sector performance
- Internal organizational culture of financing inst. mainly linear
- Skills and investment of circular design
- Standardization of CE and ESG metrics
- Trust between partners and transparency along value chain
- Synergies in updating circular policies





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